

Remarks

In the April 8, 2003 Office Action, claims 29 and 43-59 were finally rejected under 35 USC 102(b) as being anticipated by Kidd et al. (US 5,829,441, hereinafter the '441 patent). Claims 30-42 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form. By this preliminary amendment, original claims 29, 30, 32, 46 and 57 - 59 have been amended, while new claims 60 and 61 have been added.

The dental device disclosed in the '441 patent includes adjustable upper and lower arch trays and a coupling configured to pull the lower jaw of a user forwardly during sleep to minimize snoring and mild apnea conditions. The coupling can be adjusted while the device is in the patient's mouth, to promote patient comfort consistent with lower jaw extension. Each arch tray includes a pair of diverging leg members that are integrally formed into their respective arch trays. Adjustment slots are formed in the arch trays to define joints. One of the major problems with the unitary structure of the device disclosed in the '441 patent is that when the ends of the splint members were bent or otherwise moved, almost invariably the arch members would break along the lines of weakness caused by the slots. Another disadvantage of the device disclosed in the '441 patent is that the range of variability of the shapes that the splint could adopt is considerably reduced due to the inherent resiliency of the arch member material. Such material has a memory causing the material, particularly when softened, to adopt its original position.

By contrast, the instant device, while having individual elements that bear some structural similarity to the '441 patent, has numerous distinguishing features that render it patentably distinct therefrom. For example, the now-claimed angular adjustability of the extension members of the splint of the present invention allows the front of the device to adopt different angular curvatures at the front of the mouth, and also to hinge about the ends of the fastener so as to be able to more closely follow the exact curvature of a patient's mouth, particularly along the sides of the mouth. As there are no lines of weakness to define slots, the extension members of the present invention can be articulated without breaking. Similarly, by avoiding the elastically deformable approach of the '441 patent, there is little or no tendency for the extension members

to return to their original position, since the hinge need not rely on the inherent deformability of the material to maintain the correct orientation within the patient's mouth. The selective angular adjustability of the claimed device stands in stark contrast to the resilient, deformable positioning of the '441 patent, and on this distinction alone the Applicant respectfully submits that an anticipatory rejection of independent claims 29, 57, 58 or 59 cannot be maintained.

Additional distinctions between the device of the '441 patent and the present invention are made manifest by the dependent claims. For example, the '441 patent does not teach a way to reduce the length of the splint side members. This is disadvantageous in that many patients need shorter splint members to overcome occlusions and clearance problems in the mouth. In the instant application, claims 45 and 46 both further limit independent claim 29 by allowing for adjustability of the length of the extension member. Specifically, claim 46 requires the presence of snap-off segments located at spaced apart locations along the extension members, thereby providing a more custom fit. There is nothing in the '441 patent that even remotely suggests such a possibility.

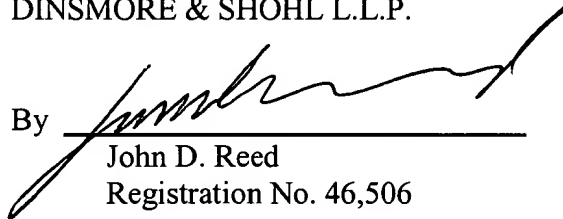
Similarly, dependent claim 47 requires that the hinged connection between the wing/extension member be in the form of a stud 62, shown for example in FIG. 2. This presents yet another distinction over the '441 patent, which incorporates small screws 64 to hold the upper arch member to the fastener, as shown in FIG. 1. These screws can become loose during use of the device, thereby presenting a swallowing hazard.

In addition, dependent claim 36 presents yet another distinction over the device of the '441 patent, where the offset of the adjuster screw 80 could break away from the screw stop at the back. A frequent concomitant to people with snoring problems and sleep apnea is the grinding of teeth in such patients. Patients using the device of the '441 patent and who experienced teeth grinding put forces on the device that caused the screw to break away from the housing. This problem is overcome by the adjuster shaft 44 being enclosed in a cavity defined by the base plate 4 and the cover 20 (as shown in FIGS. 2 and 3) of the present device.

For all of the above reasons, the Applicant submits that claims 29 - 61 of the application are patentably distinct over the device disclosed in the '441 patent, and as such are now in condition for allowance. The Examiner is encouraged to contact the undersigned to resolve efficiently any formal matters or to discuss any aspects of the application or of this response. Otherwise, early notification of allowable subject matter is respectfully solicited.

Respectfully submitted,
DINSMORE & SHOHL L.L.P.

By

A handwritten signature in black ink, appearing to read "John D. Reed", is written over a horizontal line.

John D. Reed

Registration No. 46,506

One Dayton Centre
One South Main Street, Suite 500
Dayton, Ohio 45402-2023
Telephone: (937) 223-2050
Facsimile: (937) 223-0724
e-mail: john.reed@dinslaw.com